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PATENT  
Customer No. 22,852  
Attorney Docket No. 9960.0001-03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
 )  
Keith Henry Stockman Campbell et al. ) Group Art Unit: 1632  
 )  
Serial No.: 09/658,862 ) Examiner: D. Crouch  
 )  
Filed: September 8, 2000 ) Confirmation No. 2555  
 )  
For: UNACTIVATED OOCYTES AS CYTOPLAST  
RECIPIENTS FOR NUCLEAR TRANSFER

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

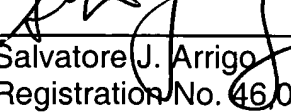
**LETTER**

Applicants submit herewith a Revocation of Power of Attorney and Grant of New  
Power of Attorney and associated papers in the above-referenced application.

Kindly associate these papers with this application.

Respectfully submitted,

Dated: April 26, 2006

By:   
Salvatore J. Arrigo  
Registration No. 46,063  
Telephone: 202-408-4160  
Facsimile: 202-408-4400  
E-mail: arrigos@finnegan.com

**BEST AVAILABLE COPY**



PATENT  
Customer No. 22,852

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Campbell et al.

U.S. Patent No. 6,252,133

(filed as Appln. No. 08/803,165)

U.S. Patent No. 6,525,243

(filed as Appln. No. 09/650,285)

Appln. No. 09/650,194

Appln. No. 09/658,862

Appln. No. 09/973,701

Appln. No. 09/989,125

Appln. No. 09/989,126

Appln. No. 09/989,128

Appln. No. 10/118,337

Appln. No. 10/151,304

Appln. No. 10/151,305

Appln. No. 10/190,611

Appln. No. 10/190,617

Appln. No. 10/234,854

Appln. No. 10/914,161

Appln. No. 10/909,845

Appln. No. 11/068,903

Group Art Unit: 1632

Examiner: D. Crouch

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**REVOCATION OF POWER OF ATTORNEY  
AND GRANT OF NEW POWER OF ATTORNEY**

The undersigned, a representative authorized to sign on behalf of the assignee owning all of the interest in this patent application, hereby revokes all previous powers of attorney or authorization of agent granted in this application before the date of execution hereof.

The undersigned verifies that Roslin Institute (Edinburgh) is the assignee of the entire right, title, and interest in the patents and applications identified above by virtue of assignments recorded at Reel 8582, Frames 0263-0264 (copy attached); Reel 9220, Frames 0250-0256 (copy attached); and Reel 017336, Frame 0136 (copy attached).

The undersigned certifies that the evidentiary documents have been reviewed and to the best of the undersigned's knowledge and belief, title is in the assignee Roslin Institute (Edinburgh).

The undersigned hereby grants its power of attorney to the patent practitioners associated with **FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, L.L.P., Customer Number 22,852**, to prosecute U.S. 6,252,133 and U.S. 6,525,243 and all continuations, continuations-in-part, divisional, and reissue applications therefrom dependent including:

- Appln. No. 09/650,194
- Appln. No. 09/658,862
- Appln. No. 09/973,701
- Appln. No. 09/989,125
- Appln. No. 09/989,126
- Appln. No. 09/989,128
- Appln. No. 10/118,337
- Appln. No. 10/151,304
- Appln. No. 10/151,305
- Appln. No. 10/190,611
- Appln. No. 10/190,617
- Appln. No. 10/234,854
- Appln. No. 10/914,161
- Appln. No. 10/909,845
- Appln. No. 11/068,903

and to transact all business in the Patent and Trademark Office connected therewith, and to receive the Letters Patent(s).

Please send all future correspondence concerning this application to **Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P., Customer No. 22,852.**

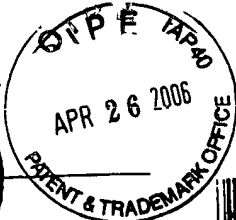
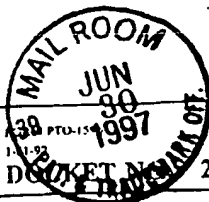
I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: 11<sup>th</sup> April 2006

By: Clare A Neilson  
Name: CLARE AGNES NEILSON

Title: COMPANY SECRETARY

Roslin Institute (Edinburgh)



07-14-1997

U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office

2980-003

100454558

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereto:

## 1. Name of conveying party(ies):

Keith Henry Stockman CAMPBELL and Ian WILLIOT

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

## 3. Nature of conveyance:

☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other

Execution Date: May 13, 1997

## 2. Name and address of receiving party(ies):

Name: Roslin Institute (Edinburgh)

Internal Address

Street Address: RoslinCity: Midlothian EH25 9PS State/Country: GREAT BRITAIN  
ZIP:Additional name(s) & address(es) attached? ☐ Yes ☒ No

## 4. Application number(s) or patent number(s):

If the document is being filed together with a new application, the execution date of the application is:

A. Patent Application No(s): 08/803,165, filed February 19, 1997

B. Patent No(s)

Additional numbers attached? ☐ Yes ☒ No

## 5. Name and address of party to whom correspondence concerning document should be mailed:

Name: LOWE PRICE LEBLANC & BECKER

Internal Address:

Street Address: 99 Canal Center Plaza, Suite 300City: Alexandria State: VA ZIP: 223146. Total number of applications and patents involved: 17. Total fee (37 CFR 3.41) ..... \$40.00☐ Enclosed☒ Authorized to be charged to deposit account

## 8. Deposit account number:

12-2237

DO NOT USE THIS SPACE

## 9. Statement and signature.

*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*Robert L. Price, 22,685

Name and Registration No. of Person Signing

Robert L. Price

Signature

June 30, 1997

Date

Total number of pages comprising cover sheet: 1

CMB No. 0851-0011 (exp. 4/94)

07/10/1997 T10M11 00000035 DAN:122237 00003165  
01 FC:581 40.00 CHPATENT  
REEL: 858? FRAME: 0263

ASSIGNMENT

In consideration of the premises and other good and valuable consideration in hand paid, the receipt and sufficiency of which is hereby acknowledged, the undersigned,

(1) Keith Henry Stockman Campbell (4) \_\_\_\_\_  
 (2) Ian Wilmut (5) \_\_\_\_\_  
 (3) \_\_\_\_\_ (6) \_\_\_\_\_

who have made a certain new and useful invention, hereby sell, assign and transfer unto

Roslin Institute (Edinburgh), Roslin, Midlothian EH25 9PS, Great Britain

its successors and assigns (hereinafter designated "ASSIGNEE") the entire right, title and interest for the United States of America as defined in 35 U.S.C. 100 in the invention entitled

UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS FOR NUCLEAR TRANSFER

(a) for which an application for United States Letters Patent was filed on February 19, 1997, and identified by United States Serial No. 08/803,165; or

(b) for which an application for United States Letters Patent was executed on May 13<sup>th</sup>, 1997

and the undersigned hereby authorize and request the United States Commissioner of Patents and Trademarks to issue any and all United States Letters Patent which may be granted therefor and any and all extensions, divisions, reissues, substitutes, renewals, continuations, or continuations-in-part thereof, and the right to all benefits under the International Convention for the Protection of Industrial Property to the said ASSIGNEE, for its interest as ASSIGNEE, its successors, assigns and legal representatives; the undersigned agree that the attorneys of record in said application shall hereafter act on behalf of said ASSIGNEE;

AND the undersigned hereby agree to transfer a like interest, and to render all necessary assistance in making application for and obtaining original, divisional, reissued or extended Letters Patent of the United States, upon request of the said ASSIGNEE, its successors, assigns and legal representatives, and without further remuneration, in and to any improvements, and applications for patent based thereon, growing out of or related to the said invention; and to execute any papers by the said ASSIGNEE, its successors, assigns and legal representatives, deemed essential to ASSIGNEE's full protection and title in and to the invention hereby transferred.

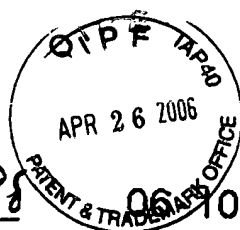
SIGNED on the dates indicated aside our signatures:

| INVENTORS  | DATE SIGNED        |
|--|--------------------|
| 1) <u>Name: Keith Henry Stockman Campbell</u> <i>KH Campbell</i> | <u>13.05.97.</u>   |
| 2) <u>Name: Ian Wilmut</u> <i>I Wilmut</i>                       | <u>May 13 1997</u> |
| 3) <u>Name:</u>  |                    |
| 4) <u>Name:</u>  |                    |
| 5) <u>Name:</u>  |                    |
| 6) <u>Name:</u>  |                    |

RECORDED: 06/30/1997

PATENT  
 REEL: 8582 FRAME: 0264

MRD 5-29-98



06-10-1998

FORM PTO-159a  
1-31-92

DOCKET NO.: 2980-003



100733314

U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office

|   |  |   |
|---|--|---|
| To the Honorable Commissioner of Patents and Trademarks   |  | Original documents or copy thereto:   |
| <b>1. Name of conveying party(ies):</b><br>ROSLIN INSTITUTE (EDINBURGH)<br><br>Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No   |  | <b>2. Name and address of receiving party(ies):</b><br>Name: <u>Roslin Institute (Edinburgh)</u><br>Internal Address:<br><br>Street Address: <u>Roslin</u><br><br>City: <u>Midlothian EH25 9PS</u> State/Country: <u>GREAT BRITAIN</u> ZIP:<br>Additional name(s) & address(es) attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| <b>3. Nature of conveyance:</b><br><input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger<br><input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name<br><input type="checkbox"/> Other<br><br>Execution Date: <u>March 26, 1998 and April 7, 1998</u>   |  |   |
| <b>4. Application number(s) or patent number(s):</b><br>If the document is being filed together with a new application, the execution date of the application is:<br>A. Patent / application No(s). <u>08/803,165, filed February 19, 1997</u><br>B. Patent No(s).<br><br>Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                        |  |   |
| <b>5. Name and address of party to whom correspondence concerning document should be mailed:</b><br>Name: <u>Gilberto M. Villacorta, PEPPER HAMILTON LLP</u><br>Internal Address:<br><br>Street Address: <u>1300 Nineteenth St., N.W.</u><br><br>City: <u>Washington, D.C.</u> State: <u>          </u> ZIP: <u>20036</u>   |  | <b>6. Total number of applications and patents involved:</b> <u>1</u><br><br><b>7. Total fee (37 CFR 3.41)</b> <u>\$40.00</u><br><input type="checkbox"/> Enclosed<br><input checked="" type="checkbox"/> Authorized to be charged to deposit account<br><br><b>8. Deposit account number:</b><br><u>50-0436</u>  |
| <div>06/08/1998 DROUTEN 00000171 300438 00003163<br/>01 FC:581 40.00 CH</div> <div>DO NOT USE THIS SPACE</div>  |  |   |
| <b>9. Statement and signature.</b><br><i>To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.</i><br><br><u>Gilberto M. Villacorta, 34,038</u><br>Name and Registration No. of Person Signing Signature<br><br>May 29, 1998<br>Date<br><br>Total number of pages comprising cover sheet: <u>2</u> |  |   |
| CMB No. 0851-0011 (exp. 4/94)   |  |   |

Document # 71087

PATENT  
REEL: 9220 FRAME: 0250



**DOCKET NO.: 2980-003**

**Continuation of Recordation Cover Sheet, Item # 2:**

The Minister of Agriculture, Fisheries and Food  
Nobel House  
17 Smith Square  
London, SW1P 3JR

Biotechnology and Biological Sciences Research Council  
Polaris House  
North Star Avenue  
Swindon, SN2 1UH

**PATENT**  
**REEL: 9220 FRAME: 0251**



**PATENT ASSIGNATION**

by

**(1) ROSLIN INSTITUTE (EDINBURGH).**

in favour of

**ROSLIN INSTITUTE (EDINBURGH); THE MINISTER OF AGRICULTURE,  
FISHERIES AND FOOD; and BIOTECHNOLOGY and BIOLOGICAL SCIENCES  
RESEARCH COUNCIL**

1998

Wright Johnston & Mackenzie  
Solicitors  
12 St Vincent Place  
Glasgow G1 2EQ

(Ref: A00020016/KMC/JCH)

**PATENT  
REEL: 9220 FRAME: 0252**

## PATENT ASSIGNATION

by



- (1) **ROSLIN INSTITUTE (EDINBURGH)**, incorporated under the Companies Acts as a company limited by guarantee with registered number 157100 and having its registered office at Roslin, Midlothian, EH25 9PS ("the Assignor")

in favour of

- (2) **ROSLIN INSTITUTE (EDINBURGH)**, incorporated under the Companies Acts as a company limited by guarantee with registered number 157100 and having its registered office at Roslin, Midlothian, EH25 9PS and **THE MINISTER OF AGRICULTURE, FISHERIES AND FOOD** of Nobel House, 17 Smith Square, London, SW1P 3JR acting through the Ministry of Agriculture, Fisheries and Food; and **BIOTECHNOLOGY and BIOLOGICAL SCIENCES RESEARCH COUNCIL**, whose principal office is at Polaris House, North Star Avenue, Swindon, SN2 1UH (collectively referred to as "the Assignees")

### WHEREAS

- (A) The Assignor is the proprietor of the Patent Applications set out in the Schedule annexed and executed as relative hereto (the "Patent Applications");
- (B) The Assignor has agreed to assign the Patent Applications to the Assignees; and
- (C) The Assignees have agreed to hold the Patent Applications and any granted patents issuing from such applications subject to a Co-Ownership Agreement to be entered into of even date herewith by the parties to this Agreement.

NOW IT IS HEREBY AGREED as follows:-

#### 1. Assignment

The Assignor hereby assigns to the Assignees as joint owners the entire right, title and interest of the Assignor in and to the Patent Applications and any patents or other similar forms of protection granted pursuant to the Patent Applications together with the right to recover and to take all such proceedings as may be necessary for the

recovery of damage and other forms or relief in respect of all infringements of the Patent Applications whether taking place before or after the date of this Assignment.

2. **Further Assurance**

Each party agrees generally to sign, seal, execute and deliver all documents, deeds, licences and agreements and to do all acts and things which may be required or may be deemed necessary that any party for giving effect to this Assignment including, without limitation, entry into instruments confirmatory of such rights for registration with appropriate authorities anywhere in the world.

3. **Governing Law**

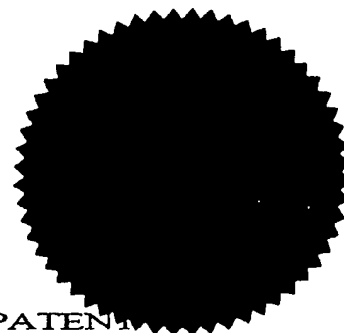
This Agreement shall be governed by Scots Law and the parties agree to submit to the non exclusive jurisdiction of the Scottish Courts: IN WITNESS WHEREOF these presents consisting of this and the preceding page together with the Schedule annexed hereto are executed as follows:-

Subscribed for and on behalf of BIOTECHNOLOGY AND BIOLOGICAL SCIENCES RESEARCH COUNCIL by Scott McGregor Lawrie their duly authorised signatory at London on 26<sup>th</sup> March 1998 before the following witness:-

Witness: Justine A Strong  
 Full Name: JUSTINE ANN STRONG  
 Address: 12, ST VINCENT PLACE Scott Lawrie  
GLASGOW Authorised Signatory  
 Occupation: TRAINEE SOLICITOR

Subscribed for and on behalf of THE MINISTER OF AGRICULTURE, FISHERIES AND FOOD by Dr Anthony Richard Burne, duly authorised signatory at London on 26<sup>th</sup> March 1998 before the following witness:-

Witness: Marylyn Wicks  
 Full Name: MRS. MARYLYN WICKS Dr Burne  
 Address: ST. CHRISTOPHER HOUSE Authorised Signatory  
SOUTHWARK ST, LONDON  
 Occupation: CIVIL SERVANT.



Subscribed for and on behalf of ROSLIN INSTITUTE (EDINBURGH) by Professor  
Grahame John Bulfield, Director and Chief Executive, at Roslin on 7<sup>th</sup> April  
1992 before the following witness:-

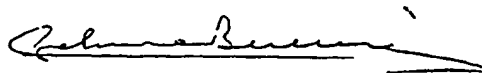
Witness: Cian A. Nash

Full Name: CLARE ANNE NEWSON

Address: 12 ST VINCENT PLACE

GLASGOW

Occupation: SOLICITOR



This is the Schedule referred to in the Assignment by (1) Roslin Institute (Edinburgh) in favour of (2) Roslin Institute (Edinburgh); The Minister of Agriculture, Fisheries and Food; and Biotechnology and Biological Sciences Research Council

**1. Unactivated Oocytes and Cytoplasm Recipients for Nuclear Transfer (MAGIC)**

| Filing Date                  | Priority Date                | Country       | Application No |
|------------------------------|------------------------------|---------------|----------------|
| 30 <sup>th</sup> August 1996 | 31 <sup>st</sup> August 1995 | International | PCT/GB96/02098 |
| 30 <sup>th</sup> August 1996 | 31 <sup>st</sup> August 1995 | South Africa  | 96/7383        |
| 30 <sup>th</sup> August 1996 | 31 <sup>st</sup> August 1995 | USA           | 08/803,165     |

**International Patent Application - proceeding in:**

Czech Republic, Hungary, Norway, Poland, Russian Federation, Ukraine, Canada, Brazil, Mexico, Cuba, Australia, China, Israel, Japan, Republic of Korea, New Zealand, Singapore, Vietnam, United Kingdom, Hong Kong, Europe (Austria, Belgium, Switzerland/Liechtenstein, Germany, Denmark, Spain, Finland, France, United Kingdom, Greece, Ireland, Italy, Luxembourg, Monaco, Netherlands, Portugal, Sweden).

**2. Quiescent Cell Populations for Nuclear Transfer (Quiescence)**

| Filing Date                  | Priority Date                | Country       | Application No |
|------------------------------|------------------------------|---------------|----------------|
| 30 <sup>th</sup> August 1996 | 31 <sup>st</sup> August 1995 | International | PCT/GB96/02099 |
| 30 <sup>th</sup> August 1996 | 31 <sup>st</sup> August 1995 | South Africa  | 96/7390        |
| 30 <sup>th</sup> August 1996 | 31 <sup>st</sup> August 1995 | USA           | 08/802,282     |

**International Patent Application - proceeding in:**

Czech Republic, Hungary, Norway, Poland, Russian Federation, Ukraine, Canada, Brazil, Mexico, Cuba, Australia, China, Israel, Japan, Republic of Korea, New Zealand, Singapore, Vietnam, United Kingdom, Hong Kong, Europe (Austria, Belgium, Switzerland/Liechtenstein, Germany, Denmark, Spain, Finland, France, United Kingdom, Greece, Ireland, Italy, Luxembourg, Monaco, Netherlands, Portugal, Sweden).

*Scott MacIntyre*

*Alma*

*John Buer*  
RECORDED: 05/29/1998

PATENT  
REEL: 9220 FRAME: 0256

**UNITED STATES PATENT AND TRADEMARK OFFICE**

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND  
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

MARCH 21, 2006

PTAS

**\*700250393A\***

FINNEGAN, HENDERSON, FARABOW, GARRETT &  
LLP  
901 NEW YORK AVENUE, NW  
WASHINGTON, DC 20001-4413

\*700250393A\*

UNITED STATES PATENT AND TRADEMARK OFFICE  
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 571-272-3350. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, MAIL STOP: ASSIGNMENT SERVICES BRANCH, P.O. BOX 1450, ALEXANDRIA, VA 22313.

RECORDATION DATE: 03/14/2006

REEL/FRAME: 017336/0136  
NUMBER OF PAGES: 10

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).  
DOCKET NUMBER: 9960.0002-02

ASSIGNOR:  
ROSLIN INSTITUTE (EDINBURGH)

DOC DATE: 06/30/2003

ASSIGNOR:  
SECRETARY OF STATE FOR  
ENVIRONMENT, FOOD & RURAL  
AFFAIRS

DOC DATE: 06/30/2003

ASSIGNOR:  
BIOTECHNOLOGY AND BIOLOGICAL  
SCIENCES RESEARCH COUNCIL  
(BBSRC)

DOC DATE: 05/22/2003

017336/0136 PAGE 2

## ASSIGNEE:

ROSLIN (EDINBURGH)

ROSLIN

MIDLOTHIAN, EH25 9PS, UNITED  
KINGDOM

SERIAL NUMBER: 08802282

FILING DATE: 02/19/1997

PATENT NUMBER: 6147276

ISSUE DATE: 11/14/2000

TITLE: QUIESCENT CELL POPULATIONS FOR NUCLEAR TRANSFER IN THE PRODUCTION  
OF NON-HUMAN MAMMALS AND NON-HUMAN MAMMALIAN EMBRYOS

SERIAL NUMBER: 08803165

FILING DATE: 02/19/1997

PATENT NUMBER: 6252133

ISSUE DATE: 06/26/2001

TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS OF NUCLEI FROM  
QUIESCENT AND NON-QUIESCENT CELLS WHILE MAINTAINING CORRECT PLOIDY

SERIAL NUMBER: 09225233

FILING DATE: 01/04/1999

PATENT NUMBER:

ISSUE DATE:

TITLE: QUIESCENT CELL POPULATIONS FOR NUCLEAR TRANSFER

SERIAL NUMBER: 09658862

FILING DATE: 09/08/2000

PATENT NUMBER:

ISSUE DATE:

TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS FOR NUCLEAR TRANSFER

SERIAL NUMBER: 09650194

FILING DATE: 08/29/2000

PATENT NUMBER:

ISSUE DATE:

TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS FOR NUCLEAR TRANSFER

SERIAL NUMBER: 09650285

FILING DATE: 08/29/2000

PATENT NUMBER: 6525243

ISSUE DATE: 02/25/2003

TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS OF QUIESCENT CELL  
NUCLEI WHILE MAINTAINING CORRECT PLOIDY

SERIAL NUMBER: 09973701

FILING DATE: 10/11/2001

PATENT NUMBER:

ISSUE DATE:

TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS FOR NUCLEAR TRANSFER

SERIAL NUMBER: 09989125

FILING DATE: 11/21/2001

PATENT NUMBER:

ISSUE DATE:

TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS FOR NUCLEAR TRANSFER

SERIAL NUMBER: 09989128

FILING DATE: 11/21/2001

PATENT NUMBER:

ISSUE DATE:

TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS FOR NUCLEAR TRANSFER

SERIAL NUMBER: 09989126

FILING DATE: 11/21/2001

PATENT NUMBER:

ISSUE DATE:

TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS FOR NUCLEAR TRANSFER

SERIAL NUMBER: 10118337

FILING DATE: 04/09/2002

TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS FOR NUCLEAR TRANSFER

017336/0136 PAGE 3

SERIAL NUMBER: 10151304 FILING DATE: 05/21/2002  
PATENT NUMBER: ISSUE DATE:  
TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS FOR NUCLEAR TRANSFER

SERIAL NUMBER: 10151305 FILING DATE: 05/21/2002  
PATENT NUMBER: ISSUE DATE:  
TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS FOR NUCLEAR TRANSFER

SERIAL NUMBER: 10190611 FILING DATE: 07/09/2002  
PATENT NUMBER: ISSUE DATE:  
TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS FOR NUCLEAR TRANSFER

SERIAL NUMBER: 10190617 FILING DATE: 07/09/2002  
PATENT NUMBER: ISSUE DATE:  
TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS FOR NUCLEAR TRANSFER

SERIAL NUMBER: 10234854 FILING DATE: 09/05/2002  
PATENT NUMBER: ISSUE DATE:  
TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS FOR NUCLEAR TRANSFER

SERIAL NUMBER: 10914161 FILING DATE: 08/10/2004  
PATENT NUMBER: ISSUE DATE:  
TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS FOR NUCLEAR TRANSFER

SERIAL NUMBER: 10915338 FILING DATE: 08/11/2004  
PATENT NUMBER: ISSUE DATE:  
TITLE: QUIESCENT CELL POPULATIONS FOR NUCLEAR TRANSFER

SERIAL NUMBER: 10909845 FILING DATE: 08/03/2004  
PATENT NUMBER: ISSUE DATE:  
TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS FOR NUCLEAR TRANSFER

SERIAL NUMBER: 11068903 FILING DATE: 03/02/2005  
PATENT NUMBER: ISSUE DATE:  
TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS FOR NUCLEAR TRANSFER

SERIAL NUMBER: 08802282 FILING DATE: 02/19/1997  
PATENT NUMBER: 6147276 ISSUE DATE: 11/14/2000  
TITLE: QUIESCENT CELL POPULATIONS FOR NUCLEAR TRANSFER IN THE PRODUCTION  
OF NON-HUMAN MAMMALS AND NON-HUMAN MAMMALIAN EMBRYOS

SERIAL NUMBER: 08803165 FILING DATE: 02/19/1997  
PATENT NUMBER: 6252133 ISSUE DATE: 06/26/2001  
TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS OF NUCLEI FROM  
QUIESCENT AND NON-QUIESCENT CELLS WHILE MAINTAINING CORRECT PLOIDY

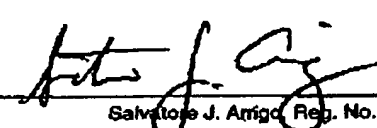
SERIAL NUMBER: 09650285 FILING DATE: 08/29/2000



TITLE: UNACTIVATED OOCYTES AS CYTOPLAST RECIPIENTS OF QUIESCENT CELL  
NUCLEI WHILE MAINTAINING CORRECT PLOIDY

017336/0136 PAGE 4

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ASSIGNMENT SERVICES BRANCH  
PUBLIC RECORDS DIVISION

| U.S. 147000<br>RECORDATION COVER SHEET<br>PATENTS ONLY  |   | U.S. Department of Commerce<br>Patent and Trademark Office<br>Attorney Docket No. 6960.0002-02<br>Attorney Customer Number: 22,852 |                  |
|---|---|--|------------------|
| To the Director of the U.S. Patent and Trademark Office:<br>Please record the attached original documents or copy thereof.  |   | Mail Stop Assignment Recordation Services  |                  |
| 1. Name of conveying party(ies):<br>(1) Roslin Institute (Edinburgh) (Dated: June 30, 2003)   |   | 2. Name and address of receiving party(ies):<br>Name: Roslin (Edinburgh)   |                  |
| Additional name(s) of conveying party(ies) attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>See Attachment A  |   | Internal Address: Roslin   |                  |
| 3. Nature of conveyance:  |   | Street Address:  |                  |
| <input checked="" type="checkbox"/> Assignment  | <input type="checkbox"/> Merger                         | City: Midlothian, EH26 9PS   |                  |
| <input type="checkbox"/> Security Agreement   | <input type="checkbox"/> Change of Name                 | State: The United Kingdom  | Zip Code: [Text] |
| <input type="checkbox"/> Joint Research Agreement   | <input type="checkbox"/> Government Interest Assignment | Additional name(s) & Address(es) attached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                  |                  |
| <input type="checkbox"/> Executive Order 9494, Confirmatory License   | <input type="checkbox"/> Other:                         |  |                  |
| Execution Date: [Date(s)]: (1) June 30, 2003<br>(2) June 10, 2003<br>(3) May 22, 2003   |   |  |                  |
| 4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application: [Type appropriate information]    |   |  |                  |
| A. Patent Application Number(s):<br><br>08/802,282<br>08/803,185  |   | B. Patent Number(s):<br><br>6,147,276<br>6,252,133<br>6,525,243  |                  |
| Additional numbers attached? <input checked="" type="checkbox"/> Yes  |   | See Attachment B <input type="checkbox"/> No   |                  |
| 5. Name and address of party to whom correspondence concerning document should be mailed:   |   | 6. Total number of applications and patents involved:<br>22  |                  |
| Name:   |   | 7. Total fee (37 CFR 1.21(h) and 3.41): \$40   |                  |
| Internal Address: FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNN, LLP.  |   | <input type="checkbox"/> Enclosed (Please charge deficiency or credit overpayment to deposit account 06-0916)                      |                  |
| Street Address: 801 New York Avenue, N.W.   |   | <input checked="" type="checkbox"/> Authorized to be charged to deposit account  |                  |
| City: Washington, D.C.  |   |  |                  |
| State: Zip: 20001-4413  |   | 8. Deposit Account No.: 06-0916  |                  |
| 9. Statement and signature.<br><br>To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. |   |  |                  |
| Signed: <br>Salvatore J. Arrigo, Reg. No. 46,063   |   | 3/14/06<br>Date  |                  |
| Total number of pages including cover sheet, attachments and documents:   |   | 10   |                  |

**1. (continued) Attachment A: Additional Conveying Parties**

- (2) Secretary of State for Environment, Food & Rural Affairs (**Dated: June 10, 2003**)  
("The Secretary of State") acting through the  
Department for the Environment, Food & Rural Affairs ("DEFRA")  
formerly known as the Ministry for Agriculture Fisheries and Food ("MAFF")
- (3) Biotechnology and Biological Sciences Research Council ("BBSRC")  
(**Dated: May 22, 2003**)

**4. (continued) Attachment B Patent Application Nos.****A. U.S. Patent Application/Serial No.**

09/225,233  
09/658,862  
09/650,194  
09/650,285  
09/973,701  
09/989,125  
09/989,128  
09/989,126  
10/118,337  
10/151,304  
10/151,305  
10/190,611  
10/190,617  
10/234,854  
10/914,161  
10/915,338  
10/909,845  
11/068,903

C - CLK  
C - DEEP**ASSIGNATION****BY**

**ROSLIN INSTITUTE (EDINBURGH)** incorporated under the Companies Acts as a company limited by guarantee with registered number 157100 and having its registered office at Roslin, Midlothian, EH25 9PS ("Roslin");

**THE SECRETARY OF STATE FOR ENVIRONMENT, FOOD & RURAL AFFAIRS** of Nobel House, 17 Smith Square, London, SW1P 3JR ("the Secretary of State") acting through the Department for the Environment, Food & Rural Affairs ("DEFRA") formerly known as the Ministry for Agriculture Fisheries and Food ("MAFF"); and

**BIOTECHNOLOGY AND BIOLOGICAL SCIENCES RESEARCH COUNCIL** whose principal office is at Polaris House, North Star Avenue, Swindon, SN2 1UH ("BBSRC");

**In favour of**

**ROSLIN INSTITUTE (EDINBURGH)** incorporated under the Companies Acts as a company limited by guarantee with registered number 157100 and having its registered office at Roslin, Midlothian, EH25 9PS ("Roslin").

**WHEREAS:**

- (A) Roslin, the Secretary of State and BBSRC are legal and beneficial owners of the patents and patent applications set out in the Schedule annexed and identified as relative hereto ("the Patents").
- (B) Roslin, the Secretary of State and BBSRC have agreed to assign any rights and interest they may have in the Patents to Roslin on the terms set out in this Assignment.

**IT IS AGREED as follows:****1. ASSIGNATION**

In consideration of the sum of £1 to be paid by each of Roslin, the Secretary of State and BBSRC to each of Roslin, the Secretary of State and BBSRC (the receipt and sufficiency of which is hereby acknowledged) Roslin, the Secretary of State and BBSRC hereby assign to Roslin:


- 1.1 all of its right, title and interest in and to the Patents; and

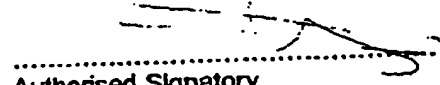
- 1.2 all rights and powers arising or accrued therefrom (whether under statute or common law) including the right to sue for damages and other remedies in respect to any prior infringement of the assigned rights in or in respect of the Patents and to retain any and all sums obtained through such actions and the right to apply for, prosecute and obtain patent or similar protection throughout the world in respect of the inventions therein including any rights to claim priority therefrom so that the grant of any such patent or similar protection shall be in the name of and vest in Roslin.

## 2. LAW AND JURISDICTION

This Assignment shall be governed by and construed in accordance with Scots law and the parties agree to submit to the non-exclusive jurisdiction of the Scottish courts: IN WITNESS WHEREOF these presents consisting of this and the preceding page together with the Schedule are executed as follows:

Subscribed for and on behalf of ROSLIN INSTITUTE (EDINBURGH) by J-W WITHERS, duly authorised signatory, at Roslin on 30 June 2003 before the following witness:

  
Witness

  
Authorised Signatory


FRANCES BURGESS  
Full Name


% ROSLIN INSTITUTE  
Address

ROSLIN

P.A.  
Occupation

Subscribed for and on behalf of BIOTECHNOLOGY AND BIOLOGICAL SCIENCES RESEARCH COUNCIL by DR D YERON, duly authorised signatory at SWINDON on 22 MAY 2003 before the following witness:

  
Witness

  
Authorised Signatory

NANCY McDONAGH  
Full Name

BESOL POLARIS HOUSE  
Address

1000A STAR AVE, SLANDERS  
ADMIN MANAGER INNOVATION UNIT  
Occupation

Subscribed for and on behalf of THE SECRETARY OF STATE FOR THE ENVIRONMENT,  
FOOD & RURAL AFFAIRS by D. A. R. BURNE, duly authorised  
signatory at LONDON on 10 June 2003 2003 before the  
following witness:

G. Bacon  
Witness

  
Authorised Signatory

EDWARD GUYAN BACON  
Full Name

CROMWELL HOUSE, LONDON SW1P 3TH  
Address

HEAD OF BRANCH B  
RESEARCH POLICY & INTERNATIONAL DIVISION, DEFRA  
Occupation

Subscribed for and on behalf of ROSLIN INSTITUTE (EDINBURGH) by  
at on 2003 before the following witness:-

.....  
Witness

.....  
Full Name

.....  
Address

.....  
Occupation

This is the Schedule referred to in the foregoing Assignment by (1) Roslin Institute (Edinburgh); (2) Department for the Environment, Food & Rural Affairs; and (3) Biotechnology and Biological Sciences Research Council in favour of Roslin Institute (Edinburgh).

## THE PATENTS

### 1. Quiescent Cell Populations for Nuclear Transfer (Quiescent Cells)

Priority Date: 31 August 1995  
 Priority Application no.: GB 9517780.4 filed in the name of ROSLIN INSTITUTE (EDINBURGH)  
 International Application no.: PCT/GB96/02099 filed in the name of ROSLIN INSTITUTE (EDINBURGH)  
 International Filing Date: 30 August 1996

\* - Indicates divisional application filed  
 † - European patent application designates: AT, BE, CH/LI, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI

| Country              | Geron ref.  | K&S ref. | Application no. | Publication / Grant no. | Status  |
|----------------------|-------------|----------|-----------------|-------------------------|---------|
| USA                  | 700/201     | P18787US | 08/802,282      | 6,147,276               | Granted |
| USA*                 | 700/202     | J18787US | 09/225,233      | -                       | Pending |
| United Kingdom       | 700/201UK   | V18787GB | 9802915.0       | 2318578                 | Granted |
| United Kingdom*      | 700/202UK D | J18787GB | 8824304.1       | 2331751                 | Granted |
| EPO                  | 700/201EP   | P18787EP | 96928587.3      | 0849990                 | Granted |
| Austria              | 700/201EP   | P18787EP | 96928587.3      | -                       | Granted |
| Belgium              | 700/201EP   | P18787EP | 96928587.3      | -                       | Granted |
| Switz./Liechtenstein | 700/201EP   | P18787EP | 96928587.3      | -                       | Granted |
| Germany              | 700/201EP   | P18787EP | 96928587.3      | -                       | Granted |
| Denmark              | 700/201EP   | P18787EP | 96928587.3      | -                       | Granted |
| Spain                | 700/201EP   | P18787EP | 96928587.3      | -                       | Granted |
| France               | 700/201EP   | P18787EP | 96928587.3      | -                       | Granted |
| Ireland              | 700/201EP   | P18787EP | 96928587.3      | -                       | Granted |
| Italy                | 700/201EP   | P18787EP | 96928587.3      | -                       | Granted |
| Luxembourg           | 700/201EP   | P18787EP | 96928587.3      | -                       | Granted |
| Monaco               | 700/201EP   | P18787EP | 96928587.3      | -                       | Granted |
| Netherlands          | 700/201EP   | P18787EP | 96928587.3      | -                       | Granted |
| Sweden               | 700/201EP   | P18787EP | 96928587.3      | -                       | Granted |
| Slovenia             | 700/201EP   | P18787EP | 96928587.3      | -                       | Granted |



| Country            | Geron ref.  | K&S ref. | Application no. | Publication / Grant no. | Status    |
|--------------------|-------------|----------|-----------------|-------------------------|-----------|
| EPO <sup>†</sup> * | 700/202EP D | J18787EP | 98203752.5      | 0930009                 | Pending   |
| EPO <sup>†</sup> * | 700/203EP D | K18787EP | 99204105.3      | 1005789                 | Pending   |
| South Africa       | 700/201SA   | P18787ZA | 96/7390         | 96/7390                 | Granted   |
| Czech Republic     | 700/201CZ   | P18787CZ | PV608-98        | -                       | Abandoned |
| Hungary            | 700/201HU   | P18787HU | P9900234        | -                       | Abandoned |
| Norway             | 700/201NO   | P18787NO | 980845          | -                       | Abandoned |
| Poland             | 700/201PL   | P18787PL | P325331         | -                       | Abandoned |
| Russian Federation | 700/201/RU  | P18787RU | 98105782        | -                       | Abandoned |
| Ukraine            | 700/201/UA  | P18787UA | 98031551        | -                       | Abandoned |
| Canada             | 700/201CA   | P18787CA | 2228568         | -                       | Pending   |
| Brazil             | 700/201BR   | P18787BR | 9610034-6       | -                       | Pending   |
| Mexico             | 700/201MX   | P18787MX | 981646          | -                       | Pending   |
| Cuba               | 700/201CU   | P18787CU | 28/98           | -                       | Abandoned |
| Australla          | 700/201AU   | P18787AU | 68310/96        | 716956                  | Granted   |
| Australia          | 700/202AU D | J18787AU | 35418/00        | -                       | Pending   |
| China              | 700/201CN   | P18787CN | 96197891.0      | -                       | Pending   |
| Israel             | 700/201IL   | P18787IL | 123298          | -                       | Abandoned |
| Japan              | 700/201JP   | P18787JP | 509996/96       | -                       | Pending   |
| South Korea        | 700/201KR   | P18787KR | 701381/88       | -                       | Pending   |
| New Zealand        | 700/201NZ   | P18787NZ | 316149          | 316149                  | Granted   |
| New Zealand*       | 700/202NZ D | J18787NZ | 334288          | 334288                  | Granted   |
| New Zealand*       | 700/203NZ D | K18787NZ | 337311          | -                       | Pending   |
| Singapore          | 700/201SG   | P18787SG | 9801334-5       | 50267                   | Granted   |
| Singapore*         | 700/202SG D | J18787SG | 9900937-5       | 75155                   | Granted   |
| Vietnam            | 700/201VN   | P18787VN | 19980153        | 2746                    | Abandoned |
| Hong Kong          | 700/201HK   | P18787HK | 98104138.8      | 1004938                 | Granted   |
| Hong Kong*         | 700/202HK D | J18787HK | 99104594.4      | 1019394                 | Granted   |

## 2. Unactivated Oocytes and Cytoplasm Recipients for Nuclear Transfer (Magic)

Priority Date: 31 August 1995

Priority Application no.: GB 9517779.6 filed in the name of ROSLIN INSTITUTE (EDINBURGH)

International Application no.: PCT/GB96/02098 filed in the name of ROSLIN INSTITUTE (EDINBURGH)

International Filing Date: 30 August 1996

\* - Indicates divisional/continuation application filed

† - European patent application designates: AT, BE, CH/LI, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI

- (1) - USSN 09/658,862 divisional from USSN 08/803,165
- (2) - USSN 09/650,194 continuation of USSN 08/803,165
- (3) - USSN 09/650,285 continuation of USSN 08/803,165
- (4) - USSN 09/973,701 continuation of USSN 09/650,285
- (5) - USSN 09/989,125 continuation of USSN 09/650,285
- (6) - USSN 09/989,128 continuation of USSN 09/650,285
- (7) - USSN 09/989,126 continuation of USSN 09/650,285
- (8) - USSN 10/118,337 continuation of USSN 09/989,125
- (9) - USSN 10/151,304 continuation of USSN 09/989,128
- (10) - USSN 10/151,305 continuation of USSN 09/989,126
- (11) - USSN 10/190,611 continuation of USSN 09/650,285
- (12) - USSN 10/190,617 continuation of USSN 09/650,285
- (13) - USSN 10/234,854 continuation of USSN 10/151,305

| Country              | Geron ref.  | K&S ref.    | Application no. | Publication / Grant no. | Status    |
|----------------------|-------------|-------------|-----------------|-------------------------|-----------|
| USA                  | 710/201     | P18826US    | 08/803,165      | 6,252,133               | Granted   |
| USA <sup>*(1)</sup>  | 710/202 D   | J18826US    | 09/658,862      | -                       | Pending   |
| USA <sup>*(2)</sup>  | 710/204 C   | V18826US    | 09/650,194      | -                       | Pending   |
| USA <sup>*(3)</sup>  | 710/203 C   | W18826US    | 09/650,285      | -                       | Pending   |
| USA <sup>*(4)</sup>  | 710/210 C   | W18826US-1  | 09/973,701      | -                       | Pending   |
| USA <sup>*(5)</sup>  | 710/205 C   | W18826US-2  | 09/989,125      | -                       | Pending   |
| USA <sup>*(6)</sup>  | 710/206C    | W18826US-3  | 09/989,128      | -                       | Pending   |
| USA <sup>*(7)</sup>  | 710/207C    | W18826US-4  | 09/989,126      | -                       | Pending   |
| USA <sup>*(8)</sup>  | 710/211C    | W18826US-5  | 10/118,337      | -                       | Abandoned |
| USA <sup>*(9)</sup>  | 710/212C    | W18826US-6  | 10/151,304      | -                       | Abandoned |
| USA <sup>*(10)</sup> | 710/213C    | W18826US-7  | 10/151,305      | -                       | Abandoned |
| USA <sup>*(11)</sup> | 710/209C    | W18826US-8  | 10/190,611      | -                       | Abandoned |
| USA <sup>*(12)</sup> | 710/214C    | W18826US-9  | 10/190,617      | -                       | Pending   |
| USA <sup>*(13)</sup> | -           | W18826US-10 | 10/234,854      | -                       | Pending   |
| United Kingdom       | 710/201UK   | V18826GB    | 9802916.8       | 2318792                 | Granted   |
| United Kingdom*      | 710/202UK D | J18826GB    | 9926730.4       | 2340493                 | Granted   |
| EPO†                 | 710/201EP   | P18826EP    | 96928586.5      | 0847237                 | Pending   |
| South Africa         | 710/201SA   | P18826ZA    | 96/7383         | 96/7383                 | Granted   |
| Czech Republic       | 710/201CZ   | P18826CZ    | PV604-98        | -                       | Abandoned |
| Hungary              | 710/201HU   | P18826HU    | P9802485        | -                       | Abandoned |
| Norway               | 710/201NO   | P18826NO    | 98064E          | -                       | Abandoned |

| Country            | Geron ref.  | K&S ref.   | Application no.      | Publication / Grant no. | Status    |
|--------------------|-------------|------------|----------------------|-------------------------|-----------|
| Poland             | 710/201PL   | P18826PL   | P325336              | -                       | Abandoned |
| Russian Federation | 710/201RU   | P18826RU   | 98105617             | -                       | Abandoned |
| Ukraine            | 710/201UA   | P18826UA   | 98031552             | -                       | Abandoned |
| Canada             | 710/201CA   | P18826CA   | 2229657              | 2229657                 | Pending   |
| Brazil             | 710/201BR   | P18826BR   | 9610013-3            | -                       | Pending   |
| Mexico             | 710/201MX   | P18826MX   | 981645               | -                       | Pending   |
| Mexico*            | 710/202MX D | J18826MX-1 | PA/a/2001/010<br>145 | -                       | Pending   |
| Cuba               | 710/201CU   | P18826CU   | 29/98                | -                       | Abandoned |
| Australia          | 710/201AU   | P18826AU   | 68309/96             | 728809                  | Granted   |
| Australia*         | 710/202AU D | J18826AU   | 28013/01             | -                       | Pending   |
| Australia*         | 710/203AU D | K18826AU   | 28014/01             | -                       | Pending   |
| China              | 710/201CN   | P18826CN   | 96197892.9           | -                       | Pending   |
| Israel             | 710/201IL   | P18826IL   | 123417               | -                       | Abandoned |
| Japan              | 710/201JP   | P18826JP   | 509995/96            | -                       | Pending   |
| South Korea        | 710/201KR   | P18826KR   | 98-701382            | -                       | Pending   |
| New Zealand        | 710/201NZ   | P18826NZ   | 316148               | 316148                  | Granted   |
| New Zealand*       | 710/202NZ D | J18826NZ   | 335407               | 335407                  | Granted   |
| New Zealand*       | 710/203NZ D | K18826NZ   | 504101               | -                       | Pending   |
| Singapore          | 710/201SG   | P18826SG   | 9801330-3            | -                       | Pending   |
| Singapore*         | 710/201SG D | J18826SG   | 9900941-7            | 75919                   | Granted   |
| Vietnam            | 710/201VN   | P18826VN   | S19980152            | 2747                    | Abandoned |
| Hong Kong          | 710/201HK   | P18826HK   | 98104135.1           | 1004937                 | Granted   |
| Hong Kong*         | 710/202HK D | J18826HK   | 00103527.6           | 1024381                 | Granted   |

Signed on behalf of Roslin .....

Signed on behalf of DEFRA .....

Signed on behalf of BBSRC .....

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